

ABSTRACT

Compressed solid feed is taught that includes fibrous plant materials, e.g. plant stalks and leaves, having a length of at least about 3 cm in at least 20% of the total weight of the compressed solid feed. The compressed solid feed may have a density between about 4.0 to 0.6 g/cm³. A blended feed for ruminant livestock is also taught that comprises this compressed solid feed in at least 15% of the total weight of the blended feed. An apparatus adapted to form compressed solid feed may include at least one die comprising a plurality of tapered raw material receiving spaces each having an inlet and an outlet and a plurality of pushing rods installed opposite to the inlets of the raw material receiving spaces. The pushing rods may be adapted to compress raw materials by reciprocating relative to the dies along the axial direction of the inlets and outlets of the raw material receiving spaces. Methods for making compressed solid feed are also taught and may preferably use such apparatus. These methods may include preparing a raw material that contains at least about 60% by weight of fibrous plant materials having a length greater than 3 cm, supplying the raw material to the raw material receiving spaces and compressing the raw material to form the compressed solid feed. Further, livestock can be fed using an automatic feed distributing machine to distribute the above-described blended feed and the need for other cellulose-based feed is eliminated.